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ABSTRACT

The University of Queensland (Australia) Library (UQL) conducted a pilot study to investigate how the university's leading researchers and postgraduate students gather information and what services and/or collections would create the ideal research environment for them. At focus group sessions, researchers and students were asked about information services the library should offer if money were no object, services seen or heard about at other institutions that they would like provided at UQL, services they might be willing to pay for, and services they would keep, improve, or extend. There was also a demonstration of "my Cybrary," a customizable World Wide Web-based portal currently under development at the library. Findings in the following areas are discussed: customization; electronic information; discipline-based differences; physical facilities; liaison librarians to help relieve overload; service improvement; and postgraduate/advanced researcher differences. (MES)

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UQ Library's first CIS : Towards Customising Information Services at the University of Queensland Library

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How well do we know our clients, our students, our staff, our customers, and our patrons? Does it matter what we call them? Perhaps not, but it does matter whether our services are meeting their needs. Are they suffering from total information overload? Do they use the new databases, ejournals and alerting services, or are we flooding them with sources of information too overwhelming? How can a Library provide services that give people some way of filtering meaningful information from the vast ocean of data out there? To explore these questions the University of Queensland Library (UQL) conducted a pilot study to investigate how our leading edge researchers and their postgraduate students gather information and what services and/or collections would create the ideal research environment for them. The project was exploratory in nature.

Setting the scene - the University of Queensland Library

The University of Queensland is the largest and oldest university in Queensland. It was established in 1909 and officially founded in 1910. The University today has a student body of 28,400 students, with postgraduates making up almost 6,000 of the students. One in 15 students is from overseas with over 80 countries represented. There are 4,500 staff employed – a mixture of academic, research and general staff.

The University is spread over 3 major campuses at St Lucia, Ipswich (approximately 30 minutes away) and Gatton (approximately 75 minutes away). Other locations include teaching hospitals and health centres, veterinary science centres, agricultural science farms, marine research stations, physics research stations, seismographic stations and a mine.

To cater to all these groups the University of Queensland Library (UQL) has 14 branches. The three largest are the Social Sciences & Humanities Library, the Dorothy Hill Physical Sciences and Engineering Library and the Biological Sciences Library, which are all on the main St Lucia campus.

The Library or as many now refer to it, the Cybrary, employs 250 staff (EFT), has an annual budget of $22 million, houses over 2 million volumes, 9,500 electronic books, 11,000 videos, 22,000 current serials, over 6000 of them available electronically, and 250 networked databases. UQL has about 1000 computers for customer use, few of whichever sit idle.

The Library services range from loan and inquiry services to information skills training programs and electronic document delivery. In 1999, 34,600 students attended information skills training sessions. The first page of the Cybrary website on one day in May of this year had 28,000 hits, 80% of which came from outside the Library's branches. Included on the Cybrary home page are direct access to the catalogue, internet services, databases, FindIts and UseIts. FindIts are introductory guides to various subjects for example; Education giving information links for an undergraduate starting the subject. Starting points include key books, journals and Internet resources on the subject. UseIts are detailed directions to other resources, such as databases, table of contents services and different referencing systems used by the University. The Library provides traditional reference and inquiry services in all branches and also a virtual service, Ask a Cybrarian, on its website. To further meet the needs of academics and students, a Liaison Librarian is appointed to each Department. Liaison Librarians take responsibility for communicating between staff and postgraduate students of the Department and the Library. Departments too, have assigned academic library liaison officers, who act as a primary contact

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for their Liaison Librarian. For students of the University the Library also maintains an AskIT service both physically and virtually. This service helps students with a range of IT problems, and since its inception at the beginning of this year has been heavily used not just to solve IT problems but also to meet IT training needs.

Origins of the Customised Information Services Group

Late in each academic year UQL conducts a series of planning sessions that involve staff from all levels. These sessions provide staff with the opportunity to debrief at the end of what is always a busy year and to establish priorities for the coming year. It was from the planning sessions at the end of 1998 that the Customised Information Services (CIS) Priority Group emerged. In seeking to identify a target group we were informed by the strong research presence at the University. The CIS Group, consisting of liaison, technical and IT section staff, was formally convened in July 1999 to investigate how the Library could target its services and collections to support leading edge researchers. This preliminary investigation into customised information services was guided by several key terms of reference:

- Identify leading edge researchers
- Find out how leading edge researchers gather information to conduct their research, including identification of research grants and preparation of grant proposals
- Explore with the researchers how the Library fits into their research process
- Explore whether current library services meet research needs of the target group
- Trial a customised search portal
- Make recommendations on future directions in the marketing and delivery of targeted collections, customised information services and advisory consultancy services.[2]

Methodology

The University of Queensland is a large institution, with a strong research profile. Our first challenge was to select from the plethora of researchers, amongst all the disciplines, a group that would be meaningful. It was about this time that the winners of the Inaugural University of Queensland Foundation Research Excellence Awards were announced. This award recognised outstanding performance and leadership potential amongst research staff. All of the researchers had been selected on the basis of outstanding achievement early in their research careers. The achievements of this group encapsulate the degree of excellence pursued by the University of Queensland. This presented us with a ready-made group, of interest both because of their acknowledged excellence in research, but also because their success came early in their careers. Would this new generation of researchers exhibit different needs and skills? Could their success be related to the use of the newly available technologies? The CIS group felt that gaining an understanding of how these researchers conducted their business and hearing their thoughts on the value of a customised information service, would provide vital clues on how to best support the research aims of the University. Not all award winners were available to participate in the project and some research staff from other faculties were approached. The decision on whom to approach was informed by the need to achieve a balanced representation of arts/humanities and science faculty research needs. The disciplines represented in the final group included Chemistry, Chemical Engineering, Earth Sciences, Education, Human Movement Studies, Physiology and Pharmacology, and Studies in Religion. Primarily the three largest branch libraries serve all of the disciplines. It was decided to extend the group, numbering seven, by asking each researcher to nominate a postgraduate student whom he/she supervised. Including the postgraduates provided an opportunity to determine any differences there might be between the researchers' and their students' perceptions of the information environment, the Library in particular and any differences there might be in the ways they conducted their research.

A literature review was conducted on the information needs of academic researchers [3]. We looked at research into patterns of scholarly communication, the relationship between discipline and information-seeking behaviour, and what implications these might have for library services and collections. The literature review contributed to the formulation of the questions posed at the focus group sessions and to the development of a survey tool to assess the research habits of the leading edge researchers. (See Appendix 1). Members of the CIS group were assigned to individual researchers, and the University Librarian formally invited each researcher to participate in the project. Two focus group luncheons were held, the first for the leading edge researchers and the second for postgraduate students

nominated by the researchers. During the focus group sessions questions were asked about information services the library should offer if money were no object; services seen or heard about at other institutions that they would like provided at the University of Queensland Library; services they might be willing to pay for, and services they would keep, improve or extend. There was also a demonstration of *"myCybrary"* a customisable portal currently under development at the Library. To follow-up the focus group sessions, interviews with the leading edge researchers were then conducted using the survey tool.

myCybrary

The development of the myCybrary personal portal, demonstrated to both the researchers and their postgraduate students, has occurred as a result of the Library's marketing focus and changing student and research needs. These had indicated a growing requirement for customised service delivery. The y generation or Dot com as they are becoming known wants information quickly and easily. The project MyLibrary@NCState provided the Library with a model to start from. The goal of myCybrary was to give library customers a seamless web interface which would enable them to tailor the library's services to their own needs. They would be able to view a 'slice' of the Library website, and easily obtain a selection of resources of their choosing that best suited their research interests. Logins and passwords would be self-assigned, with each user developing his/her own profile using a series of screens to select resources from lists of Databases, Library FindIts, selected Electronic Journals and Library Services. Customers would use the Library's existing website structure to make global selections by discipline, and then personalise pages further by selecting only certain databases from within a particular grouping.

***Screen-shot 1** - Login & Authentication*

***Screen-shot 2** - Final Customised Interface & Profile*

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Results
The CIS group members agreed that the project was a very valuable learning experience. It provided insights into how leading edge researchers approach their work, and the extent to which they valued the library services provided by UQL.

What did we find?

Customisation
Despite the fact that the members of this group were all at an early stage in their research careers, they took a broad view of customisation. The researchers did not describe their ideal library service in terms of electronic service delivery only, but expressed a desire for customised physical library spaces and even customised services delivered in the time honoured personal manner. Some of this supported earlier work done before refurbishment projects, which have been designed around customer needs. In many ways their descriptions of what services the Library should offer if money were no object were quite modest. Indeed several services they mentioned were already available. Lack of knowledge had been discovered in other work carried out at the University of Queensland Library. Focus Groups with researchers in the Humanities conducted as part of the Australian Libraries Collection Task Force (ALCTF) projects found some lack of awareness of procedures, services and information management training opportunities available at UQL. UQL is not alone in this. Despite the plethora of publications, website information and classes, many of our users lack basic knowledge of services available.

Electronic Information
Online information was either valued, or treated with some suspicion, depending on its source: unmoderated email discussion lists were not afforded much value for example, whereas recognised government websites were valued. There was also a mistrust of current web search tools available for the researcher on the Internet. The current momentum in the development of evaluated subject gateways will address this reservation over time.

Amongst the electronic enthusiasts there was a belief that the then near future easy access to e-journals, databases and fulltext material would be the norm for a researcher no matter where he or she is geographically located. Authentication problems are still an inhibiting factor in this respect. Researchers

from the science/engineering faculties described the ideal of being able to view and print articles without the complications of IP recognition and a myriad of passwords, most strongly. They agreed that the evolution of desktop delivery any place, any time, anywhere would impact on their research efficiency. Much of this work took place before the Library had acquired many of its electronic journals e.g. the Elsevier Science Direct service has only recently been acquired.

Discipline based differences

As with previous studies, there were strong discipline based differences of opinion regarding the balance of browsing of print versus electronic resources[4]. The electronic collection was more popular with the researchers from Chemical Engineering, Chemistry, Human Movements and Physiology & Pharmacology. Researchers from Studies in Religion, Education and Earth Science placed greater emphasis on the value of the print collection. All favoured easy access to table of contents services. *Web of Science*, which had been acquired by the University of Queensland Library early in 1999, received special mention as a resource valued by researchers in both the arts and the sciences for its unique advantage of citation indexing.

The value of browsing the collection was discussed in detail. There was concern amongst some researchers that the print journal collection should not be whittled away in favour of electronic versions. There was support for the value of "serendipitous" browsing. Individual researchers noted the significance of articles in some of the low impact factor journals in particular. Instances were given where such articles had a major impact on the direction of research projects.

Physical Facilities

The physical separation of latest issues from the rest of the journals was unpopular with some researchers. Some felt that the areas where new journals were displayed in the library were too noisy to be of much use. Researchers favoured the idea of quiet spaces where they could browse, uninterrupted by noise and undergraduate students! Major refurbishment of some UQL branch libraries have been completed over the last few years all driven from the customer focus on the improvement of service delivery[5]. The resulting study areas have been designed to allow for different study styles - quiet areas, less quiet areas, group study facilities. Differing uses of space by different client groups have created competing uses for areas that were originally intended to be quiet study areas, a tension that is not easily resolved. Some strategies have been adopted e.g. use of low hanging lights, to encourage a scholarly ambience in some areas.

Liaison Librarians to help relieve overload

Some researchers expressed interest in having librarians to help them formulate effective search strategies for databases. Others said this would not be appropriate because they were the best-qualified people for the job. While some researchers had adopted strategies to overcome the information overload, some said they did not feel overloaded but had a good grasp of the information in their fields. Strategies adopted by the "overloaded" included removing themselves from all listserves; using table of contents services instead of reading journals; development of critical evaluation skills; judicious use of the delete key when reading emails, and getting assistance from their Liaison Librarians to help design database searches which retrieved the most relevant information.

Service Improvement

Ideas for service improvement were relatively limited, outside of the obvious desire to have more resources, both print and electronic. The need for continued close communication between the Library and the Departments was highlighted. The researchers clearly valued the services provided by the Library and appreciated the opportunity to discuss how services could be best customised and personalised for them.

Postgraduate - Advanced Researcher Differences

The postgraduates raised some different points to those of the leading edge researchers. Both groups expressed satisfaction with current library services, but it became evident that there were greater gaps in the postgraduates' knowledge of services that were available from the Library. The Library conducts a course, Information Skills for Researchers and Postgraduates or ISRAP, which as the name suggests

caters specifically for researchers and postgraduates. The course is run over 3 days, 3 hours each day and includes information on researching at UQL from how to search the catalogue, databases and Internet to how to use Endnote. Those who had attended the ISRAP found it to be very valuable and recommended it highly to others.

Postgraduates suffered more from competing pressures of study, work and family commitments. They wanted to get their information as fast as possible with minimum effort. The Library's provision of reliable database access and the inclusion of Library call numbers and full text was highly valued. The Cybrary website provides access to an alphabetic listing of all electronic journals currently available. All e-journals are listed in the online catalogue with hot links to their websites. Full text to the desktop was the ideal. When material was not available electronically the group was not prepared to pay for the delivery of articles to their departments. A service has since been developed for one Faculty - photocopies of journal articles are hand-delivered to offices, with the Faculty office paying for the service.

Respondents were interested in more personalised services, e.g. one post-graduate liked the idea of having a "personal information computer consultant" who would know exactly what research requirements he/she had. Such a profile could be kept for all postgraduates, to allow library staff to better target information. Some postgraduates were unaware that a Liaison Librarian was available to assist them.

The postgraduates raised the problem of books' spending "99% of their time on the shelves and then needing to be borrowed by 20 people at the same time!" They thought the arrival of more e-books would alleviate the problems of heavy use and missing items. Items would be available 24 hours per day and could not be hidden or defaced. This of course depends on the license arrangements - some e-book services are being devised on the basis of one user at a time. Humanities representatives were vocal about wanting to browse the shelves. They did not place as heavy an emphasis on electronic resources but they too wanted to see more electronic texts becoming available in the humanities.

Postgraduates said that they did not find email the most useful way to advertise library training sessions. A number admitted to just sending to trash emails regarding library information skills training sessions. There was a greater reliance on word of mouth from colleagues to let them know what was worth attending and what was not.

Future Directions

The work of the CIS Priority Group raised a number of issues, many of which were already known to the Library. It highlighted:

- The lack of awareness of some library services, facilities and collections by both researchers and postgraduates.
- Liaison librarians need to be trained in marketing techniques, developing products targeted to customer needs and promoting them in a more strategic way than we have in the past. Our customer base is not homogenous and any future marketing of library services must accommodate the heterogeneity of a large research university.

In a complex higher education environment the Library seeks to market its services to a broad range of customer groups - academic, postgraduate, undergraduate, university management, general staff and library staff. Marketing strategies need to be organic, elastic and predicated on the idea the information flows two ways between the Library and its customers. The characteristics of our customer base will change, as do the services that are available. The marketing mix needs to be constantly monitored so that product and service information reaches those who need it. The sort of information that was gathered from leading edge researchers during the CIS pilot can form the basis of customer profiles. This is one way that the library can ensure that its services mesh with the research objectives of individuals and the University as a whole.

Good communication between the Library and the faculties is crucial and not just so that we can sell our services. Our customers provide data that informs service delivery and ensures that the Library's

strategic goals complement those of the University. The Liaison Librarian is crucial in this equation and his/her role in delivering and gathering an understanding of customer needs cannot be underestimated. Liaison staff must target services to match their customers needs and continually seek to improve channels of communication - through personal visits, email or structured sessions such as tours and workshops. Marketing expertise has become a core competency for Liaison Librarians, so continuous improvement in the form of new staff development options is essential.

Both researchers and postgraduates were interested in the myCybrary developments. Some of the researchers opted to use the infant service and await future developments with interest. The Library is also exploring how myCybrary can best fit with other projects. Fundamental questions about who can access myCybrary, what form the interface will take and how the service can be evaluated are still under investigation. The University is developing myUQ, a portal that will offer access to a broad range of academic and administrative services and information. This portal will incorporate other customisation projects such as myCybrary and mySInet (Student Information Network), a point where students can enroll each semester, check timetables, enroll for tutorials and check on examination dates. A prototype of myUQ is being developed and it is hoped that it will go live for students late this year[6].

A project such as the one undertaken by the CIS group helps us to better understand our customers' needs and wants. The process of planning and conducting research of this nature is in itself a learning experience. It helped us ascertain that there is demand for customised services and that there is more work to be done in terms of web-based solutions such as myCybrary and ensuring that staff have the right skills to market Library services in a targeted manner.

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Appendix 1 - Survey Tool

CIS Tool to undertake the study and analysis for all to use:

Information seeking habits of leading edge researchers:

Name:		**Dept:**	

Interviewers:		

Preamble:
The University of Queensland library has formed a working group chaired by Gulcin Cribb, Manager, Dorothy Hill Physical Sciences and Engineering Library, to determine the best way the library can support research. You are one of a small group of researchers selected to be part of a pilot study to examine customising library services. The aim of this survey is to determine how to deliver the most appropriate information to you in a timely manner and to the point most useful to you.

Questions:

1. In general, how do you gather information for your research?

   1.1. When you move into a new area of research how do you start to gather information?

   1.2. How do you keep up to date/stay current?

2. Rank the following sources of information from the most useful to the least useful.

Library - Browsing		PG students	
Books		Colleagues	
Journals		Attending conferences or meetings	
Electronic journals		Tables of Contents	
Conference proceedings		Personal subscriptions to journals	
Bibliographic Databases		Pre-print services	
Document Delivery		Discussion lists	
New books lists			

Would you like additional information about any of these services?

   2.1. The following suggestions were made for services the library could offer, please rank from 1 to 8

Literature searches delivered to the office		Postgrad/Researcher quiet reading area	
Personalised assistance with search design		More flexible approach to book votes funds – carryover and redirect	
Tagging issues on the shelves to be copied by library		List of new journal issues received for your subject regularly	
Delivery of paper copies of articles held on campus by library		SDIs	

Comments:

3. From where do you access your information - office/laboratory/library/home?

3.1. Rank your preference for where you obtain information from most favoured to least favoured, and the ease of accessing information

	Favoured Place	Ease of accessing information
Office		
Laboratory		
Library		
Home		

4. What would be your preferred way of contacting your Liaison Librarian? Via email, telephone, my library, personal visits to your office, appointments in the Library, Informal contact – coffees?

5. What is your preferred way of being contacted by your Liaison Librarian? Via email, telephone, my library, personal visits to your office, appointments in the Library, Informal contact – coffees?

6. We frequently hear people suffer from information overload. What strategies have you adopted/developed to cope with this and filter out unwanted information?

7. In the life of a research project is there a set time when you search for information, and how do you know when do you stop? Do you stop?

8. Following from the focus group discussions what would be the key elements of your ideal customised information service?

Are there any other trials of services or products you would be interested in?

9. What information do you provide to your new postgraduates about the library?

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